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Facing Rural Water Insecurities: Adapting Gendered Indigenous Approaches in Ondo State, Nigeria

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Abstract

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Keywords

gender, women, water, indigenous water management and livelihoods, PGNs, SGNs.

Cover Page Footnote

Paul O. Awoniyi Obafemi Awolowo University Ile-Ife Nigeria awoniyipau@gmail.com Swati Hegde The Journal of Gender and Water 15/05/2020 Dear Editor I am pleased to submit an original research article entitled ["Facing Rural Water Insecurities: Adapting Gendered Indigenous Approaches in Ondo State, Nigeria."] by Paul Awoniyi for consideration and publication in the Journal of Gender and Water. In this manuscript, we argue that the strategic gender needs of women, men, and children in communities must also can be considered while various projects and interventions are addressing their practical gender needs. Across rural communities around the world and in the study location in Nigeria, the strategic gender needs of rural women in Nigeria are hardly recognized due to the heavy (also cultural) responsibility that overburdens them with other domestic labour. We believe that this manuscript is appropriate for publication by the Journal of Gender and Water, because it is specifically link to the journal's aims and scope. This manuscript has not been published and is not under consideration for publication elsewhere. We have no conflicts of interest to disclose. Thank you for your consideration Sincerely, Paul O. Awoniyi, PhD Gender Studies University of KwaZulu Natal Durban, South Africa

Facing Rural Water Insecurities: Adapting Gender Based Indigenous Approaches in Ondo State, Nigeria

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KEY WORDS

gender, women, water, indigenous water management and livelihoods, PGNs, SGNs

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ABSTRACT

The participation of women in water management is critical for households and for safeguarding the health and hygiene of rural women and men, especially in Africa and around the world. This paper argues that the knowledge around gender-based water management among rural dwellers is still underrepresented and provides the rationale for this study. Qualitative methods were used to examine the approaches in rural water management and their impact on women and their livelihoods through interviews, narratives, and the respondents' everyday experiences. Significant findings from this study revealed that the indigenous participation of women in water management at individual households improved the quality of water among the rural dwellers. Further findings also showed that the impact of gender insensitivity has reemphasized the limited role of women in rural water management (RWM) at the community level. It was concluded that various indigenous practices by women in an effort to make water potable in these villages have contributed to meeting their practical gender needs (PGNs) based on their cultural roles. However, channeling water from surrounding rivers by pipe into every street and regular gender awareness assembly between men and women across the rural communities could improve the livelihood of women by contributing to their strategic gender needs (SGNs).

1 INTRODUCTION

Rural water management, water insecurities, and their various implications on the livelihoods of women and gender equality are the broad themes of this paper. All aspects of life such as livelihood, development, food, health, and security are intimately connected to water. According to WHO and UNICEF (WHO and UNICEF, 2015), urban development, population growth, and climate change in developing countries threaten water security. Water insecurity leads to morbidity, mortality, economic loss, social and political conflict. According

to Amoo et al. (2007), among six billion people across the globe, over one billion still do not have access to potable water. Garg et al. (2005) reported that approximately three out of five people in Africa and in other developing countries, do not have access to potable water. Nigeria has a total surface area of 923,768km², with a land area of 910,77km² and a water area of 13,000km². Nigeria's annual water resources include 267 billion cubic meters of surface water and about 52 billion cubic meters of groundwater (Chukwu et al., 2005). Krebs (2010) reported that only about 30 percent of the total population in Nigeria have access to potable water. Nigeria has an annual rainfall which varies from 2,000mm

in the South to 1,150mm in the North, and annual average temperature ranging between 21 to 29°C. Despite these endowments, scarcity of potable water and water management for domestic use has become a perpetual challenge in many Nigerian towns, cities and villages (Ezenwaji et al., 2016). Ondo State — which is one of the coastal western states in Nigeria — is not left out in the challenges of potable water. In the urban communities in Ondo State, most individual and multiple households depend on private water supply while a few others are able to install boreholes which is the safest means to potable water but very expensive to have. Therefore, water is pumped into overhead and water tanks where it is then distributed and sold into households. Since these sources are still not potable which is mostly due to the dirty state of the water tanks, communities in the cities are forced to buy bottled or sachet water depending on their class.

In villages, these water tankers and sachets or bottled water are not even available due to affordability. Hence, rural dwellers are forced to make their fetched water from the streams and river potable through their indigenous knowledge and approaches. These approaches includes the use of fired clay pot to store water overnight, the use of alum, clean white cloth to filter, addition of a drop of kerosine which removes odour from the water, fetching from an ancient source which is a spring where the villages believed is from their water goddess “*Yemoja*”. According to the king in Ese-Odo, one of coastal communities in Ondo State many of their women fetch water from this spring that flows all through the year. Water from this particular spring can be used without further treatment. This spring is ‘decorated’ all year round at its surface with wide circular leaves — “*Osibata*” (*water lily*). This spring water source is believed (by the rural dwellers) to possess the ability of self-cleansing. Through construction of dams (e.g., owena Ondo and owena Ijesha) provision of water networks (pipe borne water) around cities, and construction of boreholes in strategic areas, the state government has been making several efforts to increase people’s access to potable water so as to guarantee water security. The paper argues that indigenous knowledge used by women in rural water management, are alternatives methods in the provision of potable water from the available surface water. Hence, Gender, which is supposed to serve as a source of “power differentials and an organizing principle in the society” (Connell, and Messerschmidt, 2005). is still largely absent from the literature, most importantly in the participatory use of indigenous knowledge practices for water management. The study also identifies and examines the implications of women’s strategic gender needs in indigenous water management practices. This is required to improve the rural womens’ position or status by placing the women in greater control of themselves instead of restricting them to the limitations imposed by socially defined roles. This makes this study significant because it is focused on the implication of potable water scarcity on rural settlers especially on women’s livelihood. Indigenous practices and knowledge among rural dwellers were observed to be a strong anchor for local livelihoods and survival among the women. In the ‘Foucauldian’

concepts of ‘governmentality’ (Garcia, 2001) power relations have multiple centers of power in persistent states of conflict, negotiation and concession.

This paper, therefore, aim to examine and critically probe water insecurities, rural water management and practices in selected rural communities in Ondo, and explore how gender needs can be integrated into rural water management and the extent to which these would address women’s SGN. The paper also considers the implications of water insecurities on livelihoods, indigenous knowledge, and gender identity as it affects water management among the rural dwellers in Ondo. Although, studies (Singh, 2008; Elmhirst, 2008) have widely explored the impact of gender differentials of rural communities, little is still known about differences in the roles of men and women with respect to rural water needs especially with regards to indigenous approaches to water management beyond the households where the woman is stereotyped to operate from. A qualitative approach was therefore used to investigate how socially define roles in rural water management affected gender equality. This is the point of insertion for this study.

2 THE CONCEPTUAL FRAMEWORK

A Gender-Based Participatory Paradigm in Water Management

The European Commission posited that participation has resulted into expansion in development discourse while its agenda beyond the technical arena was to include institutional designs (European Commission, 2003). This includes facilitating the involvement of stakeholders in maintenance of technologies and management of resources. The unification of the concept of active participation and local management for an improved operative and unbiased development is further engendered by placing attention on the importance of promoting equitable participation of women. A very important hypothesis here is that women represent a relegated group entrapped in a formal framework. These are characterized by gross inequalities due to prescribed supremacy and authority in a community that is deprived of equal admittance to and management of water resources. There are stages and perceptions on stakeholder participation which have been constructed differently (Cornwall and Gaventa, 2001) and these stages are applicable to a gender based rural water management. The first stage is discussion, where managerial bodies consult with the public to learn from their knowledge, opinions, experiences and concepts – here the procedure does not allow any share in decision-making. The second stage involves participation in the development and execution of strategies and programmes. The public actively participate by debating problems and jointly contributing to their solutions. At the third and highest stage, active involvement has to do with collective decision-making. Here, members of the community are equally granted an opportunity in decision-making process and are also responsible for whatever outcome (Blackburn et al., 2000).

This paper thus supports the argument that the adoption of a Gender-Based Participatory Paradigm which, according to Blackburn et al (2000), states that participation can be conceptualized as representative of partnership and ownership. This is further described as a ‘bottom-up’ approach involving men and women at different levels, ensuring that their decisions are soundly made and based on shared knowledge. It includes a bottom-up process built upon an approach that emphasizes people’s empowerment and participation, gender equality, legitimacy, transparency, responsibility and effectiveness (Evertzen, 2001). The new institutional structures introduced under gender-equity based participatory models of local governance seek to balance out the gender inequalities by presenting a platform where women can be part of the organizational structure alongside men and be allowed to express their opinions as well as contribute effectively in decision-making processes. With respect to rural water management, women’s participation seeks to correct inequalities perceived in terms of access to water resources and benefits from rural water development projects as well as the exercising of decision-making powers with respect to the management of these resources (United Nations Development Programme, 2003). To translate the ethics of enhancing stakeholders’ participation, especially that of women in local water governance processes, new institutional spaces have been created through decentralization. However, in the context of local governance, this implies interaction among participants (mostly women and sometimes men) and stakeholders (mostly men) in determining their development agenda and in managing resources to implement the delivery of potable water among households, which is their development priority.

3 METHODOLOGY

Study Location

Figure 1: Map of Ondo State and the Three Study Sites (Source: Google Maps)



This study was conducted using qualitative research methods which are useful for investigation where social and physical issues interrelate. These have been applied in several water-related fields such as ‘drought’, ‘water politics’ and ‘water and gender’(Garcia, 2001). The study started in November 2017 and ended in January 2018 by engaging three rural communities in Ondo State, Nigeria. The first research phase started in Ile-Oluji which has a latitude of 7°12’6.27”N and a longitude of 4°52’3.44”E. The residents of this village (Agric Farm Settlements) are a mixed population in the sense that most of the resident are people from the neighboring states with only a few native. We then proceeded to the second study site which is a village in Ose, located in the eastern part of the state with latitude 6° 55’ 47.03” N and longitude 5° 46’ 25.25” E. This area is predominantly occupied by farmers who were also involved with other jobs like trading. Farming here is practiced at a much larger scale in comparison with Ile-Oluji. The study finally ended at Ese-Odo, which is located at a latitude of 6° 13’ 2.7” (6.2174°) north and longitude 4° 57’ 52.5” (4.9646°) east. Although this area is surrounded by a very deep large river, the residents still need to manage their water locally, to make it potable. The major occupation here is fishing and farming.

Study Sampling

A simple random sampling method was used in this research and selection of participants was based on those whose age were above 40 years. The thought process was that this age group would provide rich historical evidence around indigenous water management in their community. Data were gathered through in-depth interviews with key informants and focus group discussions (FGDs) that assisted in gathering experiences around the water insecurities, livelihood of women, and gender sensitivity of the community in rural water management. In-depth interviews with five males and five female participants from each of the three rural communities, totaling 30 participants in all including the key informants, were held across the research sites. FGDs were also conducted at the village center between women and men separately across the study sites. These comprised eight males and eight females in each study area totaling 48 participants across the three study communities, most of whom were drawn from the participants of the in-depth interviews.

Data Analysis

Interviews were mainly done in English which is the predominant language in the selected villages. However, where respondents felt that communicating in the local language (Yoruba) would aid their understanding in interviews and FGDs, interviews were conducted in Yoruba and then translated to English. All interviews were recorded with the consent of interviewees, and those in Yoruba were translated and transcribed by the researcher. Excerpts of narratives are presented verbatim and were used in thematic analysis. Sets of themes described below were decoded from the transcription of the audio recording during the interview and FGDs. Thematic analysis was used to analyze the data.

Limitations and Ethical Issues

The limitations in data collections in this study were minimized by using the individual in- depth interview, FGDs and undertaking all the interviews in the individual villages or home- settings of the interviewees. However, gender sensitive questions could not be addressed properly in the FGDs across the study sites especially in the women's group but were dealt with at the individual in-depth interview. Hence, to protect participants, sensitive issues around gender and water management were not discussed in open groups and informed consent was given before commencing the study. Pseudo names were adopted in the entire study area with each name representing a collective or similar perception around each interview question.

4 RESULTS AND DISCUSSION

Rural Water Management and Indigenous Knowledge

Crow and Sultana observed that women have initiated numerous strategies to manage water due to cultural expectations which has feminized their role. These strategies were also used in the distribution and availability of potable water in the study area (Crow and Sultana, 2002). Before colonization, the integration of indigenous knowledge into the management of water and environment, has to a large extent been endorsed within a "paradigm of a static source" (Dove et al., 2007). However, there is a need to capture this knowledge in order to use it in the restoration of health to ecosystems upset by globalizing commercial management (Schreiner et al., 2002). This paper argues that Indigenous knowledge which is being used as survival of various communities, was passed down by their ancestors and can be passed on during practical activities in community setting so that it is recollected and verbally transferred as narrative in very different genres.

Among these knowledge and practices common to all the communities are the use of indigenous materials like alum, white filter cloth, charcoal, fired clay pots, fetching Yemoja spring water, salting, prayer/anoointing oil, use of lime and kerosene. Indigenous knowledge and materials used in water management throughout Ondo have been seen as an alternative method of survival, since tap water or government water is no longer available in towns or cities, let alone in villages or among the rural dwellers.

Women and Rural Water Management

The source of potable water in Ese-Odo is the Yemoja spring, despite not providing a lot of water, it flows throughout the year. Also, across the Local Government Area (LGA), a high percentage of female respondents were observed using indigenous materials like fired clay pots, fetching Yemoja spring water, salting, prayer/anoointing oil, use of lime and kerosene (it is believed in this communities that a drop of it on the fetched water will remove odor, make the water stay longer at home without smelling, and kill organisms that stays on water) for their household water management. This reflects their dependence on the indigenous approaches for their livelihood. However, this was a different experience in Ile- Oluji and Ose where the water sources were primarily wells and boreholes. This consequently affected the choice of their indigenous materials and approach. Geographical location alone (see Table 1) does not affect their adaptability and responses to indigenous knowledge and materials. Some other factors that could also be responsible are the level of education, their occupation, age and also their cultural perception. Under the category "Others" (Table 1) are the use of prayers, prayer oil (anoointing oil), and Yemoja Spring source. The table shows that their level of education (grade 6 most educated person) affected the use of indigenous materials. It also shows that the illiterate women as against men, depended more on the indigenous approach.

Table 1. Relationship between Education and the use of indigenous material in water management between men and women across the study sites, 2018.

		Indigenous Materials/methods					
Alum		White Cloth Filter	Sand	Sun	Charcoal	Others	
Local Government Area (LGA)	Ile-Oluji	19.3(%)	15.7(%)	-	-	24.4(%)	40.6(%)
	Ose	17.2(%)	16.2(%)	-	-	22.2(%)	44.4(%)
	Ese-Odo	9.8(%)	10.4(%)	-	-	13.7(%)	66.1(%)
Education	Male	39.1(%)	8.7(%)	-	-	5.9(%)	46.3(%)
	Female	7.3(%)	12.1(%)	-	-	25.3(%)	55.3(%)

While the level of poverty in all the study areas also made their dependency on indigenous materials for indigenous material in water management (IWM) in the category “others” high for both genders. However, the use of indigenous material in Ese-Odo was observed to be highest (others) due to the relatively lower income bracket of the villagers, and because of their strong cultural beliefs compared with other villages. This also applies to other coastal areas and villages in this region (Irele, Okitipupa and Ijaw communities) where women are mostly responsible for indigenous water management. Some of the female participants perceived that their stay in the village is not good for them because of the water challenges which could not be resolved at the community level. They argue that if the men responsible for making most of the decisions did the right thing, the challenges around potable water delivery would be a forgotten issue

Some female participants expressed their views with respect to the state of their water challenges;

“But since it is customary to be quiet as a woman and do what you are meant to do, we will continue to do it until when we can be free.”

(Female participants interview from November 2017 revealed)

This view point was the same among women across the 3 study areas. However, during the FGD it was difficult to establish it because they were afraid of being tagged a rebellious woman which is a term often used for women who are trying to address gender inequality based on their gender awareness. These view point were better harvested during the individual in-depth interviews, which allows the women to be able to secretly express themselves. Women in the study areas also noted that the key inhibiting factor that makes them economically backward and dependent on men is their lack of education which is predicated on the amount time spent on water management and provision.:

“How can you be educated doing these kinds of activity every day? I am doing this not even involving my female children so that they will not have to go through this.”

(Female participants interview from December 2017 revealed)

These participants said the only way they can be visible and heard by men in the village is only when they are educated or have successful children as a widow. According to International Conference on Fresh Water (ICF, 2001) the importance of a policy statement highlighting the need for a gendered approach which allows for the participation of men and women by strengthening the roles of women was argued at the International Conference on Freshwater in Bonn. Furthermore, equality was also highlighted during the statement of the Third World Water Forum in Kyoto, 2003. At the 8th World Water Forum in Brasília, 2018, it was observed that it has become progressively accepted that women should play a pivotal role in water management and that this role could be improved through the strategy of “gender mainstreaming

which allows for women’s as well as men’s concerns and experiences to be vital in the design, execution, monitoring and evaluation of policies and programs in all spheres so that women and men benefit equally” (Zwarteveen, 2008).

Figure 2: Indigenous Water Management (IWM) practices and the distance covered by men and women for Water and IWM materials, across the 3 LGAs, 2018

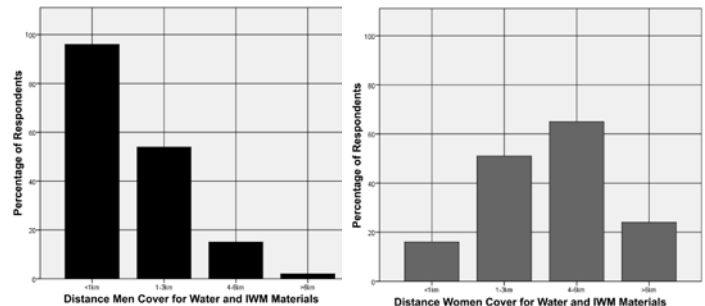
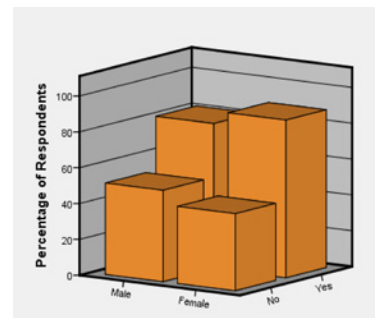


Figure 3: Can IWM approach solve the problem of potable water, across the 3 LGAs, 2018



Despite the above effort to include women in water management, the potential positioning of women in rural community water management beyond the households in the provision of potable water and the livelihood of women is, arguably, far from realization and under researched. This is the everyday experience of women in Ile-Oluji as well as in Ese-Odo and Ose, where the management of water at the household level varies from household to household. The distance covered to fetch water (Figure 2) and the sources of IWM materials is also a major challenge of the female participants’ affecting their economic empowerment. Even while the respondents accepted (Figure 3) that their indigenous approaches were effective, the responsibility is always shouldered by the women. As a stakeholder in the rural water management, women’s voices should be allowed at the decision making meetings in the communities. Due to the cultural orientation across the study site, men will not take part in the household water management. This was the expression of one of the female participants:

“The source of water is far away from our house. Since we depend on well and the stream; I will get water from a well if I can wake up as early as 3:30/4am.”

(An interview with female participants in Ese-Odo from January 2018 revealed)

She said that she is too tired to wake up in the morning most of the days. The next option is to walk approximately 3km to go to the stream.

According to Cameron et al (Awoniyi, 2019), technology, transport, money and distance are further influenced by social relations of accessibility. Therefore, it is argued in this paper, that if potable water or at least water is available from the tap at home, everybody collects, and everyone is involved; however, whenever it is necessary to draw water from underground, women and children do this; if it is necessary to walk some distance to fetch water, it then solely becomes the responsibility of the women and girls. Feminists in the past have (Cameron and Gibson-Graham, 2003; Nagar et al, 2002) have argued for the need for further research into the “informal spaces and practices of globalization”, which includes household relations and the feminization of spaces and labor required in water collection and livelihoods. This eventually would reveal how gender and women’s lives are shaped by larger forces like economy and class. Similarly, Mohanty argued that the “micro-politics of context, subjectivity, and struggle” provide critical insights into “everyday life and rural gendered contexts and ideologies to the larger, transnational political and economic structures and ideologies of capitalism” (Mohanty, 2003). All these arguments revealed the everyday activity and labor of the women within their homes and local environment. In this paper, all the participants revealed how hard water provision has been and wondered why it must be the sole role of the women.

Anu like other women or female respondents has a duty to provide for their family, good drinking and potable water through walking long distances daily.

“I trek for a long distance everyday just to get the best water for my family, thereafter I subject the water to some local practices like adding charcoal and sometimes a drop or less of kerosine to make the water good”

(An interview from November 2017 with a female member of Ose named Anu revealed)

Indigenous Approaches and Impact on Women’s Livelihood

Indigenous water management among rural communities in Ondo State is a daily chore. It requires so much time, especially when combined with cooking activities, that they are left with little or no time to do anything that could enhance their economic wellbeing. Hence, most women remain at home and some try to open small shops in front of their houses. One of the respondents, although not a key informant, provided rich and sensitive information about gender relations in indigenous water management. She has been engaging in various methods of local water management for over 40 years. She narrated that they had been using boreholes as a major source of water for about 20 years and it has not helped in solving the water challenges in their community. The water from all boreholes is not good enough for drinking, hence there is a need to use of local or indigenous practices.

Female respondents narrated their experiences with respect to the challenges of water management and provision:

“If you want very pure drinking water and you can cope with the stress, then you can first start with the charcoal overnight. Then in the morning you add alum for about one hour then filter off. Some of us had resorted to using the charcoal and sometimes without the filters, because it can take some time to get the materials.”

(An interview with female participants in Ile-Oluji from December 2017)

According to another female respondent, who grew up fetching water from the streams, the major practices of women for water management involved using charcoal, alum and filters. She argued that keeping women away from the local water management meetings, planning, and activities would not solve the present water challenges because women are skilled and passionate about providing water at the household level. While men are only looking for an opportunity to make a profit from the local water management activity, women are primarily interested in making sure that everyone in their household has access to potable water even without direct economic incentive or compensation. All these activities do not allow for a reformed gender relation among rural dwellers which could allow women to have a higher involvement in water management. According to Charisma (2010), “women in the global South and in the 21st century continue to fetch water for domestic use in the way they did at the end of the nineteenth century”. It is their sole responsibility to provide both potable water and other domestic water on a daily basis. It is therefore argued that as much as this lifestyle has been accepted by cultural perceptions as their fate, equality and equity desired by women will not be realized. This is also very unlikely where the patriarchal family is regarded as beneficial to social stability, hence keeping the women and the girl children trapped at the household local water management with little or no respect to their gender needs (O’Reilly et al., 2009).

The strategic gender needs of rural women in Nigeria are hardly recognized due to the heavy (also cultural) responsibility that overburdens them with other domestic labor. This paper argues that the strategic gender needs of women, men, and children in communities must be considered while various projects and interventions are addressing their practical gender needs. In this study, practical and strategic gender needs are described in specific context as requirements enabling women to change their subordinate position for example; in decision making, committee head, own land and property, claim equal wages, altering sexual division of labor and a gender-based participation. Most of the villages in Ondo were observed to have shifted or ‘downplayed’ the result and effect of a participatory approach to indigenous water management (IWM). The present water crisis still being faced by the rural areas of Ondo and around the world, shows that many of the poor women (and some of the men) are unable to live out their dreams and even support their

families due to the daily routine of potable water provision. Although both in theory and according to the respondents across the research sites, the men with the women believe that increased participatory efforts in indigenous water management practices can help improve not only the quality of the water they drink, but also the quantity. However, this is easier said than done, based on my interactions across the three communities, as the men are hardly involved in these practices except for planning and taking decisions.

Although there are policies both in terms of good representation in water-project steering committees and regarding easing the burden placed on women in the rural areas, these policies do not automatically ease their burdens of the provision of potable water for their households. Consequently, a review in South Africa, of gender-balanced policy in water delivery and management (*Agenda Issues*; Mehta, 2006) raised the question of very 'slow advancement' in improving the participation of women within the water sector globally. This agrees with a previous research which shows that studies around the world 'implicate women' as being responsible for the reproductive activities of cooking, cleaning and care, and that they are primarily more into local water management activities (Awoniyi, 2019). Water for various household uses is mainly fetched, transported, stored in clay pots and managed by rural women, thereby leaving women with little time to effectively participate in local water management beyond their homes due to their domestic responsibilities (Singh, 2008) (on women's triple role), which makes it impossible to address their SGN while meeting their PGN.

Perceptions of Roles in Rural Water Management

The views of some of the men aligned with that of the women, most importantly, regarding equal participation of the women in indigenous water management beyond the household level. However, it is not what they actually practice because the men are seen as the head of the household, but when it comes to domestic activities or responsibilities like cooking and fetching water, they are culturally and naturally exempted. At the community level, where decisions and planning are made, the men are regarded as the head.

"People say what they want to say, but do things completely different from what they say"

(An interview with female leader in Ese-Odo, January 2018).

However, some of the female participants believe that if women were allowed to be involved in the deliberation around water issues, there could be some measures of solution. The common view among male respondents is that equal participation is a good idea, although they feel that this must be done carefully, because not all women are submissive, and it could make women misuse the opportunity because they cannot manage power well. The male participants shared their views on the nature of their water and responsibilities around it:

"We have to go through the local or indigenous methods of making the water potable. I know I have to do some little extra things like using salt and charcoal to make water potable, but I do not have the time."

(An interview with male participants in Ile-Oluji, January 2018)

The men agree with the women that some local activities must be involved before they are able to drink their water. However, male participants are of the opinion that such activities are not supposed to be done by men because culturally, that is a woman's role. Indigenous water management practices have been used for more than 30 years. Residents in this particular community buy the water they use from water vendors, which is not very clean. The men's responsibility sometimes was to ensure that the filters (white cloth) are readily available for use, since it requires going into the town to buy. According to Adefemi, a male participant in the interview, this approach has been useful for his family members although they wish to do more than simply use filters. He also agreed with others from his community in Ifon that good participation can enhance better availability of water. Chief Alabeni, a key informant in Ese-Odo, also noted that a collective working together between the men and the women would yield useful results with respect to providing quality water and improving the available water. However, some of the men believe that equal involvement between men and women is good but not possible because the women are better managers of water at home.

"As a chief, I have more than one wife and I think equal participation among women and men beyond the homes with respect to indigenous water management is welcomed. But as a religious man I am not sure that would be accepted by God and culture because women are meant to be restricted to their house duties which are so much."

(An interview with male leader in Ese-Odo, January 2018)

Men are hardly available for water management especially at the household level, due to their constant attendance at the community meetings. Similarly, women are hardly available for community meetings due to their commitment to potable water provision at their household. Nightingale (2006) also argues that there is a "need to study gender as a socially-constructed concept and how gender roles change, which is revealed by struggles over limited resources". This can only be achieved by viewing 'gender as a process', hence making it possible to evaluate how "subjectivities and interactions with developmental projects and the environment changes in the course of time". Hence, gender relations in water management are both produced and challenged, although in an uneven way by gender identities and subjectivities. Gender relations are therefore connected together with the gender division of labour, norms, rights and the different kinds of

“spatiality and materiality” that exist in water management (Butler, 1994). This puts gender roles in its right perspectives, especially as they affect the inabilities of the women to be able to give their best in pursuing their dreams due to the burden of indigenous water management and provisions.

Earlier studies on rural water management (Raji et al., 1997; Mataka et al., 2006) focused extensively on the implication of indigenous knowledge and the use of various plants and plant parts in water management among the rural residents. Knowledge of indigenous management of water and natural resources have become extensive in many traditional landscapes. Indigenous knowledge in water management is a common practice and a means to livelihood in the villages in Ondo State, where local women and men “have ways of research and knowledge which allow the local knowledge to be innovative in traditional practices and systems” (Garcia, 2001). Therefore, the perception about unequal participation can be a result of culturally and religiously-held beliefs. This of course was observed to have put a heavy burden on the women to the point that even if they wanted to do things that would help their families economic wellbeing, their stressful lives would make it impossible. It is therefore argued that involvement of women and men in indigenous water management initiatives beyond the households, can increase project effectiveness and efficiency. This could also improve project performance and the likelihood of sustainability and livelihood across Ondo State. In other words, a project is more likely to achieve what planners hope if the women and men as stakeholders (both rich and poor) are “active participants and decision-makers, and not with women as practitioners while the men are the decision makers” (Rutgerd and Zwarteveen, 2002). Nevertheless, understanding the different gender roles, relations and inequalities between women and men can influence how individuals respond to changes in water and can help explain their choices with respect to water sources and management practices. In most villages, the men are always and customarily richer than women, giving them the power and the voice needed in decision-making among these communities (Hope et al., 2003). Hence, women (and poor men) generally are less likely to be considered for positions on water committees or rural development committees.

5 CONCLUSION

In this article, the role of women in addressing water insecurity, and social perceptions was examined. Also, extent of the involvement of women, impact on women’s livelihood and the various indigenous approaches in rural water management, was discussed. I have also examined the impact of gender participation and equality in rural water management which has been documented to facilitate women’s strategic gender needs and practical gender needs. This article highlights the importance of reducing the burden of potable water provision on rural women. If this is not addressed, the level of poverty among rural community could further deepen and impact the livelihood of women. Gender awareness and

sensitivity among the men could potentially re-order the perceived cultural role of women, limiting them to reproduction and as household managers of water by bringing them into active involvement in community development, especially as it relates to rural water management. The different narratives from the in-depth interviews and FGDs from the study sites also show that the under-involvement of women in rural water management practices at the community level has not only affected the management and adequate provision of water, but also the gender needs of those (women) who are the primary collectors and managers of water (Hope et al., 2003; IRC, 1994). However, it was generally observed that women play a vital and major role in collecting, managing and maintaining household water availability, and regulating and controlling its domestic use. The social use and safe maintenance of water beyond their homes, were supposed to be men’s responsibilities because they are more involved in taking decisions. The *hierarchical* world which exacerbates inequalities had only forgotten that women have better information, knowledge and skills on the accessibility, quality, reliability and purity of water sources across the contexts of household, community and subsistence livelihood conditions (Wallace and Coles, 2005). The involvement of women and men in rural community level water management is regarded as important since their gender roles and needs are dynamic differing across geographical locations and also varying with time. This gender-based approach would not only make potable water readily available but also improve the livelihood of women by reducing the amount of time spent on water provision and management.

Hence, given that women are the ones mostly affected by bearing the burden of water management and involvement in fetching water, this paper therefore argue for the need to channel their source of water from the surrounding rivers into every street across the entire village. This would reduce the time consumed in fetching water, and the indigenous procedures required to make it potable. However, in a place where the community is far from streams and river (Ose), urgent intervention from NGOs and government is needed in the installation of boreholes across the community at distances that are easily accessible for the residents. Hence, with the use of their indigenous knowledge, the women in these communities can then manage the water using their various indigenous approaches. However, gender mainstreaming and sensitivity must be considered as priorities in the installation of any water technology. This would assist the maintenance of the equipment and management of the processes. Also, gender lens should be adopted such that the management and maintenance of these facilities are done with a bottom-up approach in a participatory manner, ensuring gender equality. Among the guiding principle of the National Water Resources Policy it was noted that ‘the planning and management of Nigeria’s water resources shall take place within a framework which facilitates awareness and participation among all users at all levels’ (Delgado and Zwarteveen, 2007). Since all the water from various sources across the study site still needs to go through some indigenous approaches done by the

women at the household level to make water potable, a strategic approach in rural water management should therefore involve the participation of men and women at the community level. Hence, this paper argues that a bottom-up approach that is gender sensitive and ready to accommodate the indigenous knowledge of women in water management could potentially manage the challenges of potable water across rural communities.

6 REFERENCES

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